

# Does Private Regulation Preempt Public Regulation?

Neil Malhotra

Benoît Monin

Michael Tomz

November, 2017

Working Paper No. 1028

## Does Private Regulation Preempt Public Regulation?

Neil Malhotra

Edith M. Cornell Professor of Political Economy  
Stanford Graduate School of Business  
655 Knight Way, Stanford, CA 94305  
Phone: 650-725-1759, Email: neilm@stanford.edu

Benoît Monin

Bowen H. and Janice Arthur McCoy Professor of Ethics, Psychology, and Leadership  
Stanford Graduate School of Business  
655 Knight Way, Stanford, CA 94305  
Phone: 650-721-2178, Email: monin@stanford.edu

Michael Tomz\*

Professor of Political Science, Stanford University  
Senior Fellow, Stanford Institute for Economic Policy Research  
Encina Hall West Rm 100, 616 Serra St, Stanford, CA 94305-6044  
Phone: 650-725-4031, Email: tomz@stanford.edu

Version: November 28, 2017

**Abstract:** Previous research has emphasized corporate lobbying as a pathway through which businesses can influence government policy. This paper examines a less-studied mode of business influence: private regulation, defined as voluntary efforts by firms to restrain their own behavior. We argue that firms can use modest private regulations as a political strategy to preempt far more stringent public regulations. To test this hypothesis, we administered experiments to three groups that often demand environmental regulations: voters, environmental activists, and government officials. Our experiments revealed how each group responded to information about voluntary environmental programs (VEPs) by firms. We found that relatively modest VEPs dissuaded all three groups from seeking more draconian government regulations. We observed this response, however, only when nearly all companies within an industry joined the voluntary effort. Our study therefore documents an understudied source of corporate power in politics, while also exposing the limits of private regulation as a strategy for influencing government policy.

**Acknowledgements:** For extremely helpful comments on earlier versions of this paper, we thank participants at the Barcelona-Gothenburg Workshop on Experimental Political Science (2016), the Conference on Environmental Politics and Governance (2015 and 2016), and the Meetings of the American Political Science Association (2015), as well as seminar participants at Northwestern University and Yale University.

\* Corresponding Author

One of the most important and enduring topics in political science is the influence of business on politics. Scholars have examined how businesses secure preferential government policies, often at the expense of society as a whole (e.g., Schattschneider 1960; Wilson 1974; Lindblom 1977; Scholzman and Tierney 1986; Baumgartner and Leech 1998). A large body of research has examined how firms influence policymaking via lobbying (for an overview, see Drutman 2015).<sup>1</sup>

In this article, we examine a less-studied way in which firms influence government. Firms sometimes engage in *private regulation*; they voluntarily go beyond the requirements of current law (e.g., Potoski and Prakash 2005; Prakash 2000; Prakash and Potoski 2006; Vogel 2005, 2008). Firms may, for example, change their business operations by cutting back on pollution and developing green products that are not mandated by regulations. They may take these steps unilaterally or coordinate with other players in their industry.

Some scholars claim that firms overcomply with existing regulations as a strategy to preempt new legislation, avoid stiff enforcement, mollify interest groups, and prevent public protests (e.g., Werner 2012; Kinderman 2012; Baron 2014; Fooks et al. 2013; Lyon and Maxwell 2004; Maxwell et al. 2000). By exceeding the requirements of status quo regulations, firms may dissuade key actors in the policymaking process—government officials, interest groups, and the mass public—from demanding more stringent regulations.

This article investigates whether and under what conditions private regulations can preempt public regulations. Our research focuses on voluntary environmental programs (VEPs),

---

<sup>1</sup> Scholars have also examined the “structural” power of business, in which politicians cater to business because businesses are important for the economy (e.g., Lindblom 1977; Hall 1986).

in which firms go beyond the requirements of current environmental law.<sup>2</sup> We focus on environmental regulation not only because it is substantively important, but also because there is a robust literature on VEPs to which this paper contributes (Potoski and Prakash 2013).

There is surprisingly little research about whether VEPs bring political benefits for firms. A few scholars have studied whether VEPs cause government officials to curtail the *enforcement of existing regulations*. Innes and Sam (2008), for example, investigated participation in the EPA's 33/50 program, a voluntary agreement between firms and the U.S. government to reduce the release of 17 chemical pollutants. They found that participating firms experienced significant reductions in government inspections.<sup>3</sup>

In contrast, no studies to our knowledge have quantified the effect of VEPs on support for *passing new regulations*. Do VEPs actually succeed in dampening support for regulations? Do the effects vary by the type of VEP and the audience evaluating the programs? What are the broader implications for corporate power?

To address these questions, we conducted experiments involving three key groups that often demand environmental regulations: ordinary citizens, environmental activists, and government officials. Our activist samples included affiliates of the Audubon Society (one of the largest environmental organizations in the United States) and people who had previously signed an environmental petition demanding government regulations to address climate change. Our sample of government officials included legislators, executives, regulators, and staff at all levels of government.

---

<sup>2</sup> The literature commonly refers to “voluntary environmental programs” (e.g., Prakash and Potoski 2006, 2012). Related terms include private regulation (Büthe 2010), private authority (Green 2014), private governance (Kinderman 2016), and self-regulation, among others.

<sup>3</sup> Research on other programs has found mixed results, in which VEPs reduced inspections for some industries but not others (Decker 2005; Sam 2010).

We randomized information about VEPs and measured how this information affected support for more stringent policies. We found that VEPs dissuaded all three groups from calling for stiffer environmental regulations. However, the magnitude of the effect depended critically on the percentage of companies within an industry that joined the voluntary effort. When only half the firms took voluntary action, a scenario we call *narrow* participation, their efforts typically did not affect support for regulation. When nearly all firms within an industry participated (*broad* participation), in contrast, the impact on policy preferences was substantial. Hence, the breadth of participation by firms is fundamental to understanding the relationship between private and public regulations.

We also distinguish *deep* reforms, in which VEPs go well beyond current requirements, from *shallow* reforms, which involve only modest steps beyond the status quo. In our experiments, environmental activists responded more strongly to deep reforms than to shallow ones, but government officials and the public did not. Moreover, among all three groups, shallow actions substantially depressed support for government regulation, as long as the firms taking voluntary action succeeded in getting their peers to join. These findings imply that even shallow corporate actions can preempt support for government regulations.

This paper advances our understanding of the role of corporations in politics by providing, to our knowledge, the first micro-level empirical evidence that self-regulation has a causal effect on support for government regulation. Our analysis also contributes to the extensive literature on the formation of public preferences (Druckman and Lupia 2000). Prior research has documented the persuasive impact of parties (Bullock 2011), politicians (Carmines and Kuklinski 1990), the media (Iyengar and Kinder 1987), advocacy groups (Arceneaux and Kolodny 2009; Lupia 1994), and courts (Bartels and Mutz 2009). There has been less work about

the persuasive power of corporations. We show how corporations not only mobilize citizens to act on existing preferences (e.g., Kollman 1998; Smith 2000), but also persuade people to change their policy attitudes.

The paper is organized as follows. We first review the existing literature and present a series of competing theoretical predictions that motivate our empirical inquiry. We then describe our sampling procedures, experimental design, and statistical model. Finally, we analyze how our unique samples of environmental activists, ordinary citizens, and government officials responded to VEPs. We conclude by discussing the implications of our findings for the study of corporate influence, government regulation, and environmental politics.

## **1. Previous Literature and Testable Hypotheses**

We extend previous research in political science about the strategic interplay between corporations and other political actors. Werner (2012), for example, finds that firms engage in self-regulation and other forms of corporate social responsibility in response to shifts in public opinion and threats from activists and regulators. Werner's work shows how political threats affect the behavior of firms. In this article we explore the reverse relationship: how the behavior of firms—and specifically their efforts at self-regulation—affect the political threat environment by transforming the preferences of politicians, activists, and the mass public.<sup>4</sup>

We also build on prior research about coordination among firms. Precisely because

---

<sup>4</sup> Werner's theoretical framework allows for this possibility; he posits that self-regulation can have feedback effects on the attitudes of political actors and identifies the study of feedback mechanisms as "a rich area for future research" (Werner 2012, 25, 151). As one example of feedback, Werner (2015) finds that policymakers grant greater access to firms with better sociopolitical reputations. On the strategic interplay between corporations, NGOs, and the public, see also Bernhauer and Caduff (2004).

private regulation is costly, firms might be tempted to free-ride on the self-restraint of other firms without moderating their own activities. As Potoski and Prakash (2005, 2013) explain, firms can overcome this collective action problem by creating club goods, i.e., benefits that can be withheld from firms that do not participate in the VEPs. We investigate whether such VEPs preempt support for public regulation, and how the responses of key stakeholder groups depend on the size of the “green club,” i.e., the fraction of firms that join VEPs.

### *The Overall Effect of VEPs*

To theorize about how VEPs might affect support for regulations, consider a one-dimensional policy space with less restrictive regulations on the left and more restrictive regulations on the right. Let  $p$  represent a policy that would substantially increase environmental regulations on firms, relative to the status quo,  $q$ . Suppose firms engaged in a less-intense voluntary environmental program,  $v$ , such that  $q < v < p$ . How would  $v$  affect support for raising government regulations from  $q$  to  $p$ ?

It is not obvious how VEPs would affect the policy preferences of ordinary citizens, interest groups, and government officials. On the one hand, VEPs could *decrease* demand for environmental regulations. If people believe that  $v$  is a significant step in the direction of  $p$ , VEPs could reduce support for switching to  $p$  by persuading people that the environmental problem has been partially, albeit incompletely, solved. Moreover, once firms have invested in technologies that partially solve an environmental problem, citizens may be reluctant to demand stiffer standards that would destroy the value of the firms’ investments. Finally, if part of the motivation to impose regulations stems from a desire to punish non-repentant firms that are causing environmental problems, the admission of responsibility and the contrition implied by VEPs could lead observers to forgive companies and relax their punitive zeal.

On the other hand, VEPs could *increase* demand for environmental regulations. Observers could interpret VEPs as proof that environmental problems are real and that firms can afford to behave more responsibly. VEPs also might raise the aspirations of citizens, activists, and officials, leading to demands for more action (Bendor et al. 2011). Consistent with this prediction, some firms use VEPs as part of a conscious strategy for promoting—rather than avoiding—stiffer regulation. Large firms, in particular, may engage in corporate environmentalism and then lobby for government to impose the same standards on other firms. In this way, the voluntary actions of environmental leaders could lead to involuntary regulations against environmental laggards (Barrett 1991; Denicolò 2008; Urpelainen 2011).<sup>5</sup> Consistent with the possibility that VEPs could make environmental regulation more likely, research suggests that interest groups may treat self-regulating firms as “soft targets” that are susceptible to activist pressure (Baron and Diermeier 2007; Baron et al. 2011; King and McDonnell 2015).

There is a third possibility, however: VEPs could have *no effect* on the demand for environmental regulation. Several mechanisms could contribute to a null result. For instance, observers might doubt that firms would honor their promises to launch VEPs and sustain the programs when market pressures change. Observers know that, promises notwithstanding, firms could delay implementation, cancel their plans, or restrain their behavior for a time, only to roll back their efforts at some point in the future. If people do not trust firms to implement and sustain their environmental programs, VEPs may do little to dampen enthusiasm for government regulations.

---

<sup>5</sup> This strategy could help large firms gain a competitive advantage by pricing-out smaller competitors who cannot afford the environmental regulations. The strategy could also help large firms rationalize production and distribution by adopting the most stringent standard across the many markets in which they operate.

Even when corporate initiatives are perceived as credible, though, they might be too weak to affect demand for government regulation. Environmental activists, in particular, often prefer extreme measures that companies would not be willing to undertake voluntarily. These activists presumably would not be mollified by corporate actions that fall short of their desired goals. For related reasons, VEPs might not convince ordinary citizens and government officials to change their views. If opinion is highly polarized, with some people demanding extremely stringent environmental regulations and the remainder opposing any new regulations regardless of voluntary corporate environmentalism, then intermediate steps by corporations might not sway members of either camp.

Finally, VEPs could prove inconsequential in the aggregate, because the responses of different groups could cancel each other out. In heterogeneous societies, VEPs could mobilize some people while demobilizing others. Wherever these two groups are of roughly equal size, VEPs could change the attitudes of many individuals without affecting opinion overall. For all these reasons, it is not obvious whether VEPs would increase, decrease, or have no effect on support for regulation. This is ultimately an empirical question, which we address through experiments.

### ***The Effects of Breadth and Depth***

If VEPs affect attitudes toward government regulation, will some VEPs move opinion more than others? To explore this possibility we distinguish two key dimensions of VEPs: breadth and depth. Breadth refers to the percentage of companies within an industry that are taking voluntary initiatives to protect the environment. Broad initiatives involve most or all of the firms in an industry, whereas narrow initiatives engage a smaller set of players. Our second dimension, depth, captures the amount of voluntary effort individual firms are exerting. Deep

reforms go far beyond the requirements of current law, whereas shallow reforms represent smaller departures from the status quo. We anticipate that opinions about regulation will shift more sharply in response to broad and/or deep initiatives than in response to narrow and/or shallow ones.

Which dimension should be more important for explaining attitudes toward regulation? In other words, would attitudes respond more strongly if participation expanded from narrow to broad, or if effort increased from shallow to deep? There are several reasons why breadth might dominate. First, government regulations vary in strength, but they almost always apply to all firms in an industry. For this reason, citizens may view narrow corporate initiatives as unacceptable substitutes for government regulations. Second, if participation is narrow, observers might worry about adverse selection, in which the worst polluters opt out, leaving participation to firms that were green before the initiative began. Third, if participation is narrow, participating firms might backtrack in the future to avoid suffering a competitive disadvantage vis-à-vis nonparticipating firms. For these reasons, we expect breadth to prove more consequential than depth.

To arbitrate between these competing perspectives, we designed a series of experiments, which we administered to three groups of actors: environmental activists, the mass public, and government officials. In the remaining sections we describe our experimental design, sampling procedures, and findings.

## **2. Experimental Design and Statistical Model**

We used survey experiments to investigate whether VEPs would decrease, increase, or have no effect on support for government regulations. Our experiments focused on six

environmental issues: plastic packaging for foods and beverages; genetically modified foods (GMOs); new-generation insecticides called neonicotinoids; bird deaths due to wind turbines; overfishing of bluefin tuna; and fuel efficiency standards for automobiles. In our studies of environmental activists and government officials, each participant was randomly assigned to consider three issues; in our studies involving the mass public, each participant saw two issues.

For each issue we first described the environmental problem *without mentioning a VEP* and measured support for extreme government regulations. We then presented hypothetical scenarios in which firms were engaging in VEPs, and re-measured the same respondents' support for extreme regulations. The scenarios varied along two dimensions, each with two levels: the breadth of participation by companies within the industry (broad versus narrow), and the depth of measures that participating firms were taking to protect the environment (deep versus shallow). For each issue, Table 1 compares the extreme regulatory proposal (*p*) to the less-stringent VEPs (*v*).<sup>6</sup>

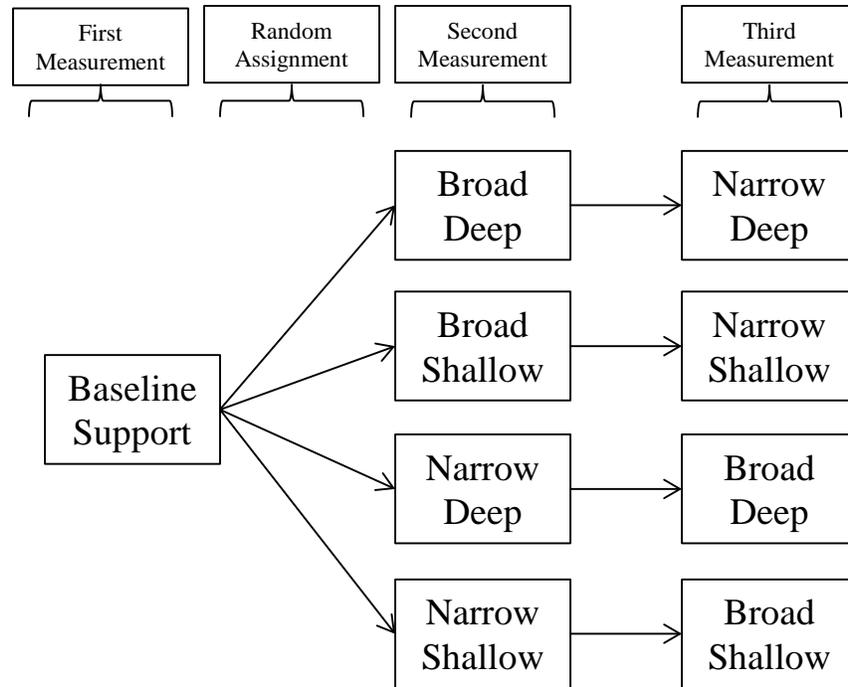
---

<sup>6</sup> For a detailed discussion of the treatments in Table 1, see the Supporting Information (SI).

**Table 1: Extreme Proposals (*p*) and VEPs (*v*)**

Issue	Extreme Proposal ( <i>p</i> )	Voluntary Environmental Program ( <i>v</i> )
Plastic packaging	Ban plastic packaging for foods and beverages	[Half or All] companies voluntarily agree that their plastic containers will have at least [30 or 70] percent recycled content
GM foods	Ban genetically modified foods	[Half or All] companies voluntarily agree to label all genetically modified foods beginning in the year [2015 or 2021]
Neonic insecticides	Ban neonic insecticides	[Half or All] companies voluntarily agree to train farmers [and not sell neonics to farmers who grow crops that attract bees]
Wind turbines	Ban wind turbines in areas where birds might be at risk	[Half or All] companies voluntarily change location and operation to reduce bird deaths from wind turbines by [25 or 60] percent
Bluefin tuna	Ban the sale of bluefin tuna in the United States	[Half or All] companies voluntarily agree not to fish in [20 OR 40] percent of the waters where bluefin tuna live
Car fuel efficiency	Require that all new cars get at least 60 MPG by 2020	[Half or All] companies voluntarily agree that every new car will get at least [40 OR 50] miles per gallon by the year 2020

We randomized these dimensions independently, resulting in four types of VEPs: broad and deep, broad and shallow, narrow and deep, and narrow and shallow. Each respondent considered two of the four VEP scenarios. Thus, each respondent expressed their preferences in a baseline scenario that did not mention voluntary action, and in two of the four conditions in which firms were voluntarily protecting the environment. Figure 1 displays our randomization scheme and the measures we elicited.



**Figure 1: Randomization Protocol**

*Note:* After introducing an issue, we measured support for regulation in a baseline scenario that did not mention VEPs. We then assigned the respondent to one of four tracks. Each track measured support for regulation under two distinct scenarios in which firms were engaging in a VEP.

To illustrate these procedures, we describe our protocol for plastic packaging (the full question wordings for all six issues can be found in the SI). We introduced the issue by explaining, “Some people think the U.S. government should ban plastic containers for prepackaged foods and drinks. They say the production and disposal of plastic containers hurts the environment. Other people think the government should not ban plastic containers for prepackaged foods and drinks. They say a ban would impose high costs on businesses and consumers by significantly increasing the price of food.”

We then asked, “Do you think the government should or should not ban plastic containers for prepackaged foods and drinks?” The response options were should ban, should not ban, or don’t know. We also administered a follow-up question that measured how strongly respondents

felt about their answer: very strongly, somewhat strongly, or not strongly at all. These questions revealed the respondent's baseline level of support for extreme government regulations. We used the answers to construct a seven-point scale that ranged from 0 (very strongly opposed a ban) to 100 (very strongly supported a ban). Respondents who said "don't know" were scored at the midpoint, 50.<sup>7</sup>

Next, we randomly presented one of four scenarios in which companies were taking voluntary action to recycle plastic. Thus, respondents read about a situation in which a VEP was either deep or shallow and participation was either broad or narrow. We operationalized a VEP as deep if companies committed to use containers with at least 70 percent recycled content, but shallow if they committed to use only 30 percent recycled content.<sup>8</sup> In scenarios with broad voluntary action, all food and beverage manufacturers changed their practices; in scenarios with narrow voluntary action, on the other hand, only half of the manufacturers made the shift.

The deep and broad scenario read: "Companies sometimes take voluntary steps to protect the environment; they do more than what the government requires. Suppose that all food and beverage manufacturers voluntarily increase their efforts to recycle plastic, by making sure their plastic containers have at least 70 percent recycled content. If all food and beverage manufacturers make this change without being required by the government, do you think the government should or should not ban plastic containers for prepackaged foods and drinks?" The other scenarios were similar, but we substituted 30 percent for 70 percent, and/or replaced "all manufacturers" with "half of the manufacturers."

---

<sup>7</sup> We adopted this measurement strategy following best practices from the question design literature suggesting that respondents at endpoints should be branched but respondents at midpoints should not be branched (Malhotra et al. 2009).

<sup>8</sup> We did not explicitly tell respondents the level of the status quo to mimic the real political environment, where people often do not know the reference points for proposed policies.

We analyzed data from the experiment by estimating the following OLS regression model:

$$Y_i = \alpha + \beta_1 BD_i + \beta_2 BS_i + \beta_3 ND_i + \beta_4 NS_i + \varepsilon_i \quad (1)$$

where  $i$  indexes respondent-issue observations;  $Y_i$  represents support for stringent environmental regulations on a scale from 0 to 100;  $BD_i$ ,  $BS_i$ ,  $ND_i$ , and  $NS_i$  are dummy variables representing the four treatment conditions (broad and deep, broad and shallow, narrow and deep, and narrow and shallow), and  $\varepsilon_i$  is a normally distributed stochastic error. For some analyses we pooled data from all respondents and environmental issues; for other analyses we estimated equation (1) for each issue or category of respondents. As noted earlier, each participant opined on several issues, and on any given issue they answered questions about three scenarios (the baseline and two treatments). To correct for inter-personal correlation, we clustered standard errors by respondent.

Using equation (1), we estimated the effects of voluntary corporate action on support for regulations. The constant term,  $\alpha$ , represented support for government regulations in the baseline condition without VEPs, and the  $\beta$ s quantified how each type of VEP changed opinion relative to the baseline. By combining parameters, we were able to estimate conditional effects, as well. The effect of broad VEPs conditional on deep action was  $\beta_1 - \beta_3$ , whereas the effect of broad VEPs conditional on shallow action was  $\beta_2 - \beta_4$ . Likewise, the effect of deep VEPs conditional on broad participation was  $\beta_1 - \beta_2$ , while the effect of deep VEPs conditional on narrow participation was  $\beta_3 - \beta_4$ .

### **3. Sampling Procedures: The Mass Public, Interest Groups, and Political Elites**

Regulatory policy is a product of a democratic process that weighs the preferences of interest groups, the mass public, and government officials. We studied how VEPs affect these

distinct groups by administering experiments to two samples of environmental activists, a sample of ordinary citizens, and two samples of government officials.<sup>9</sup> We obtained the first activist sample in collaboration with The Audubon Society (hereafter, Audubon), one of the largest environmental organizations in the United States. In October 2013, Audubon sent email invitations to a random sample of people who satisfied at least one of the following criteria: they were dues-paying members of Audubon and subscribers to *Audubon* magazine; they had donated money to Audubon in the past; or they had signed up to receive emails alerting them to take political action—such as signing petitions and contacting politicians—on environmental issues. A total of 2,374 Audubon affiliates completed the survey between October and December 2013.

We obtained a second activist sample by cosponsoring an environmental petition on Care2, a social networking website that was founded in 1998 and grew to become one of the most popular hosts for petitions about environmental issues. The petition, which appeared on the Care2 website in July 2013, urged members of Congress to take strong and swift action on climate change. Each signatory typed their name, email address, and mailing address. After harvesting contact information from each signatory, we emailed them in February 2014 to complete a survey, which contained our embedded experiments. Of the 10,710 people we emailed, 1,722 (16%) completed our questionnaire. These people represent our second sample of environmental activists.

We also administered experiments to a sample of 1,708 adults in the United States. Survey Sampling International, a professional polling firm, provided the respondents, who were interviewed in April 2014. To further enhance the representativeness of the sample, we constructed post-stratification weights to match U.S. Census benchmarks for gender, age,

---

<sup>9</sup> For details about recruitment procedures, see the SI.

education, and race, and to match the Pew Research Center's benchmarks for political party affiliation (Pew Research Center 2015).<sup>10</sup>

Finally, we administered experiments to two samples of government officials. For these special samples, we acquired contact information for more than 60,000 government officials, including legislators and executives at all levels of government, and legislative staffers and regulators at the federal and the state levels. From this large list we drew a random sample of 10,200 officials, whom we emailed in August-October 2015 to request participation in a study. A total of 923 completed this first study. We contacted a second random sample of 10,397 officials in October 2016, resulting in an additional 608 completed interviews.

Before analyzing how these groups responded to our experimental manipulations, we profile each group. As expected, environmental activists (both Audubon affiliates and petition signatories) differed from the mass public on many demographic dimensions. Table 2 shows that activists were older and more educated than the mass public, and more likely to be female and white. Activists were also more toward the left wing of the political spectrum. Approximately 47% of Audubon affiliates and 62% of petition signatories declared themselves to be Democrats, whereas only 32% of the mass sample identified with the Democratic Party. Likewise, 56% of Audubon affiliates and 78% of petitioners professed to be somewhat or very liberal. Among the mass public, the analogous statistic was only 23%.

---

<sup>10</sup> In this article we report weighted analyses, but the SI shows that our conclusions remained the same when we ran analyses without weights.

**Table 2: Demographic Variables, by Sample**

	Activists		Mass Public	Public Officials	
	Audubon	Petitioners		Sample 1	Sample 2
<b>Gender</b>					
Female	63 %	60 %	51 %	25 %	25 %
Male	35	40	49	75	75
Not reported	1	0	0	0	0
<b>Age</b>					
18-44 years	10 %	12 %	47 %	19 %	18 %
45-64 years	42	43	35	50	47
65 and over	37	42	18	28	33
Not reported	10	3	0	3	2
<b>Education</b>					
High school or less	7 %	6 %	42 %	4 %	3 %
Some college	20	26	29	17	13
College degree	39	34	19	37	38
Graduate degree	34	33	10	41	45
Not reported	1	0	0	0	0
<b>Race</b>					
White	91 %	88 %	79 %	85 %	88 %
Black	1	3	12	4	4
Latino	2	4	15	4	3
Asian	1	2	5	2	2
Other	6	7	2	5	5
Not reported	4	2	0	2	1
<b>Political Party</b>					
Democrat	47 %	62 %	32 %	35 %	36 %
Independent	31	27	39	21	22
Republican	11	2	23	40	38
Other	7	8	6	3	4
Not reported	4	1	0	1	0
<b>Ideology</b>					
Very liberal	26 %	48 %	10 %	10 %	11 %
Somewhat liberal	30	30	13	16	17
Moderate, middle road	21	14	36	30	29
Somewhat conservative	13	3	21	30	28
Very conservative	5	1	13	12	13
Not sure/not reported	5	4	7	2	1

*Note:* Sample sizes were 2,374 for Audubon affiliates; 1,722 for petition signatories; 1,708 for the mass public; and 923 and 608 for public officials. Percentages for race sum to more than 100% because respondents could check more than one racial category.

Table 2 also shows that our samples of government officials differed from the public in predictable ways. Compared to ordinary citizens, the government officials in our studies were more likely to be male, middle-aged, and white. The officials were also more educated than the typical American; more than 40 percent of the officials in our study had graduate degrees, and an additional 37-38 percent had completed college. Despite these differences, our government samples reflected the political diversity of the country as a whole. Democrats, Independents, and Republicans were well represented in our samples, as were leaders of all ideological stripes.

As we anticipated, Audubon affiliates and environmental petitioners were extremely active in environmental politics. We asked which of the following seven actions (if any) respondents had taken on an environmental or conservation issue: attended a rally, boycotted a product, contacted a politician, donated money, organized a protest, signed a petition, or volunteered time. As Table 3a shows, a majority of Audubon affiliates and petition signatories had done at least four of the seven activities, and over a quarter had completed at least five. Practically all respondents in these groups had taken at least one concrete action in support of an environmental cause.

**Table 3: Environmental Activism, by Sample**

(a) Number of environmental actions

	Audubon Affiliates		Petition Signatories		Mass Public	
	Frequency	Cumulative	Frequency	Cumulative	Frequency	Cumulative
All seven	3 %	3 %	3 %	3 %	0 %	0 %
Six	10	13	10	13	0	1
Five	15	28	14	27	2	2
Four	24	52	30	58	4	6
Three	20	72	23	80	9	15
Two	13	86	12	92	11	26
One	9	94	6	99	18	44
None	5	99	1	100	56	100
Not reported	1	100	0	100	0	100

(b) Frequency of voter turnout

	Audubon Affiliates		Petition Signatories		Mass Public	
	Frequency	Cumulative	Frequency	Cumulative	Frequency	Cumulative
Every time	86 %	86 %	87 %	87 %	50 %	50 %
Most of the time	8	93	8	95	18	68
About half of the time	1	94	1	95	6	74
Less than half the time	0	95	1	96	5	79
Rarely or never	3	98	3	99	18	98
Not sure/not reported	2	100	1	100	2	100

(c) Importance of environment when voting

	Audubon Affiliates		Petition Signatories		Mass Public	
	Percent	Cumulative	Percent	Cumulative	Percent	Cumulative
Essential	51 %	51 %	65 %	65 %	19 %	19 %
Very important	37	88	30	95	31	49
Somewhat important	8	96	4	99	26	76
Slightly important	1	97	0	99	12	87
Not important at all	0	98	0	99	5	93
Not sure/not reported	2	100	1	100	7	100

*Note:* Panel A shows how many of the following a respondent had done on an environmental issue: attended a rally, boycotted a product, contacted a politician, donated money, organized a protest, signed a petition, or volunteered time. Panel B presents answers to the question, “About how often do you vote in national elections—that is, for President, Senator, or Representative?” Panel C shows answers to the question, “Generally speaking, when deciding whom to vote for in a national election, how important to you is the candidate’s position on environmental issues?”  $N = 2,374$  for Audubon affiliates, 1,722 for petition signatories, and 1,708 for the mass public.

We also measured willingness to express environmental preferences during elections by asking, “About how often do you vote in national elections—that is, for President, Senator, or Representative?” As Table 3b shows, at least 86% of Audubon affiliates and petition signatories reported voting every time, and an additional 8% said most of the time. Further, we asked, “Generally speaking, when deciding whom to vote for in a national election, how important to you is the candidate’s position on environmental issues?” Among Audubon affiliates, 51% answered that environmental issues were essential, and an additional 37% said the environment was a very important voting criterion. Petition signatories assigned an even higher political priority to environmental issues: 65% regarded the candidate’s environmental stance as essential, and another 30% deemed it very important (Table 3c).

Levels of environmental activism were considerably lower among ordinary citizens. Most had not taken any of the seven measures we listed, and only 26% had participated in two or more. Moreover, only half of ordinary citizens reported voting all the time, less than half regarded the environmental stances of politicians as very important, and only 19% indicated that environmental issues were essential to their vote. Our samples enabled us to test whether ordinary citizens were more or less responsive to VEPs than people who were deeply engaged in environmental activism.

Although we did not ask officials whether they had boycotted products, staged protests, or engaged in other forms of environmental activism, we did inquire about their political and environmental experience. Table 4 shows that around two-thirds of our respondents had been working in government for more than 5 years, and roughly two-thirds had been in office for more than 15 years. The table also summarizes how officials responded to the question, “How much experience do you have working on environmental issues?” The median member of our

sample was moderately experienced, and 37-42 percent reported having either a lot or a great deal of experience on environmental issues. More than three quarters of our respondents were elected, and most held positions in local government, although the sample also included significant shares of officials at the state and federal levels.

**Table 4: Political Experience of Government Officials**

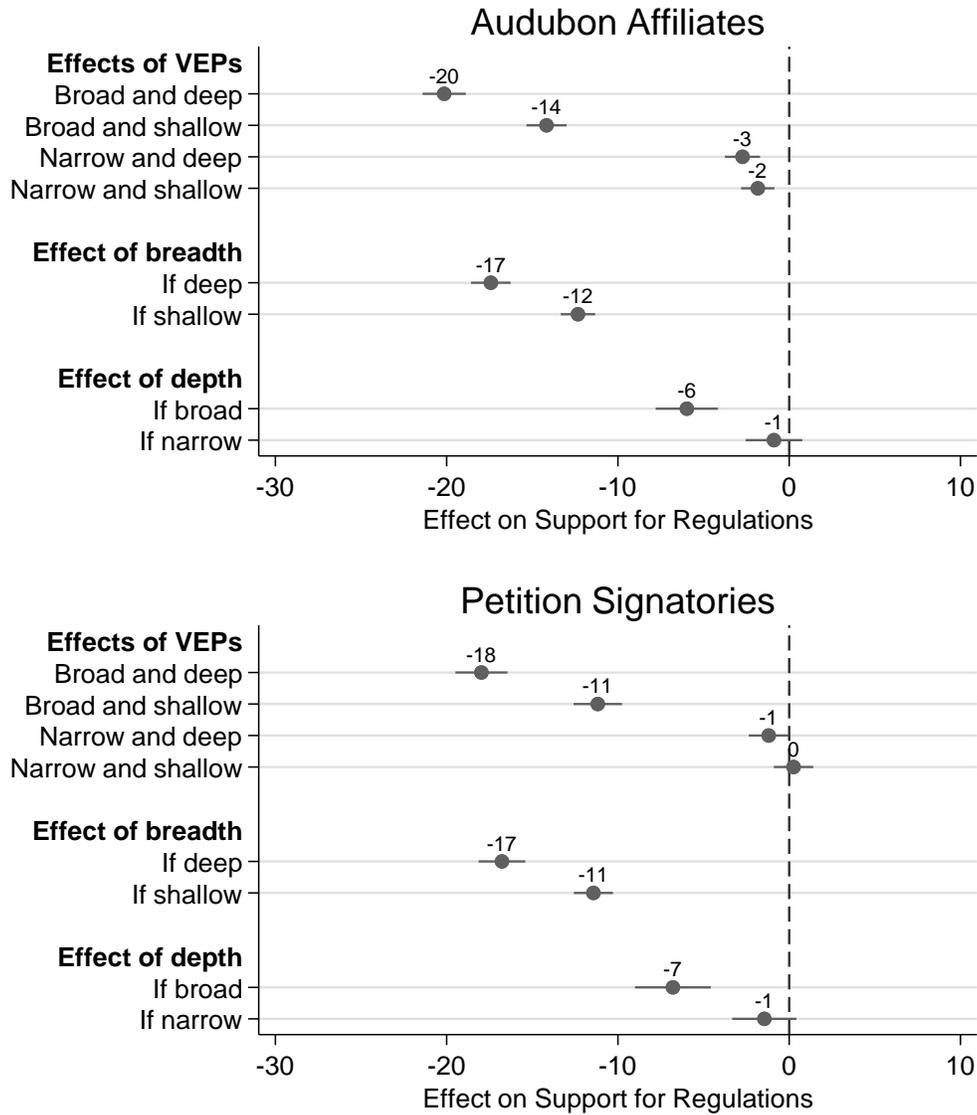
	Sample 1	Sample 2
<b>Years in Government</b>		
21 or more	22 %	22 %
16 to 20	11	10
11 to 15	14	12
6 to 10	21	19
0 to 5	31	36
Not reported	1	1
<b>Environmental Experience</b>		
Great deal	11 %	7 %
A lot	31	30
Moderate amount	33	39
A little	13	15
None	11	9
Not reported	1	0
<b>Level of Government</b>		
Federal	11 %	6 %
State	13	14
Local	76	80
<b>Elected or Not</b>		
Elected	81 %	76 %
Not Elected	19	24

*Note:*  $N = 923$  for sample 1 and 608 for sample 2.

#### 4. Effect of VEPs on Activists and Citizens

Having described our unique samples, we now analyze how VEPs affected support for government regulation among activists and citizens. Figure 2 presents the effects on Audubon affiliates (top graph) and petition signatories (bottom graph) when we pooled all six issues. Within each graph, the first four dots represent the average effects of VEPs on support for regulation, relative to the baseline condition in which no voluntary action was mentioned. The remaining dots summarize the effects of broad VEPs conditional on whether corporate efforts were deep or shallow, and the effects of deep VEPs conditional on whether corporate efforts were broad or narrow. In these plots and all others, the thin horizontal lines represent 95% confidence intervals. Given the large sample sizes, nearly all effects were statistically significant at  $p < .05$  (two-tailed). Therefore, in the discussion below, we focus on substantive effect sizes and only note when an effect was *not* statistically significant.

We found that voluntary corporate action sapped support for regulation among Audubon affiliates, especially when a broad swath of the industry participated. Broad and deep VEPs reduced support for regulations by 20 points, a substantively large change relative to the baseline of 69 points when no corporate action was mentioned. Broad but shallow actions were also consequential; they depressed support for regulations by 14 points, on average, across the six issues in our experiment.



**Figure 2: Effects of VEPs on Environmental Activists**

*Note:* Effects are defined as changes in support for regulations, relative to a baseline score when no VEP was mentioned. The baseline score was 69 for Audubon affiliates and 76 for petition signers. The Audubon graph is based on 21,214 observations, and the petitioners' graph is based on 15,440 observations.

When only half the firms in an industry participated, the effects of VEPs on Audubon affiliates were more modest. Enthusiasm for regulations fell by only 3 points when firms engaged in narrow and deep VEPs, and dropped by only 2 points when firms undertook narrow and shallow VEPs. Although both effects were statistically significant, owing to the large sample, they represented small movements on our 100-point scale. Overall, Audubon affiliates were far more willing to relax their regulatory demands when all firms participated in the environmental effort than when only half undertook voluntary environmental initiatives.<sup>11</sup>

Moreover, the effects of breadth depended on depth. When firms in an industry were taking deep voluntary action, support for regulation was 17 points lower if all firms joined than if only half did. When voluntary action was shallow, however, breadth proved less consequential: moving from narrow to broad participation reduced regulatory sentiment by 12 points, rather than 17. These conditional effects, with confidence intervals, appear in Figure 2 under the labels “Effect of breadth: if deep,” and “Effect of breadth: if shallow.”

Likewise, the effects of depth depended on breadth. When all members of an industry were undertaking voluntary action, the regulatory impulse was 6 points weaker if efforts were deep than if they were shallow. When only half the firms were acting voluntarily, though, respondents did not perceive deep action as significantly better than shallow action; the effect of depth given narrow VEPs was only one point and statistically insignificant.

We replicated these findings with a different sample of environmental activists, who had signed an environmental petition to Congress (bottom half of Figure 2). Among petitioners,

---

<sup>11</sup> In our experiment, respondents saw the narrow treatment followed by the broad treatment, or vice versa (see Figure 1). Juxtaposing these two treatments may have accentuated their differences. As a robustness check, we analyzed data based only on the first treatment the respondents saw. The results were similar (see the SI).

baseline support for regulation was 76 out of 100 when we presented environmental issues without mentioning autonomous corporate action. Compared to this baseline, enthusiasm for regulation was 18 points lower when firms displayed broad and deep voluntary initiatives and 11 points lower when firms displayed broad but narrow voluntary initiatives.

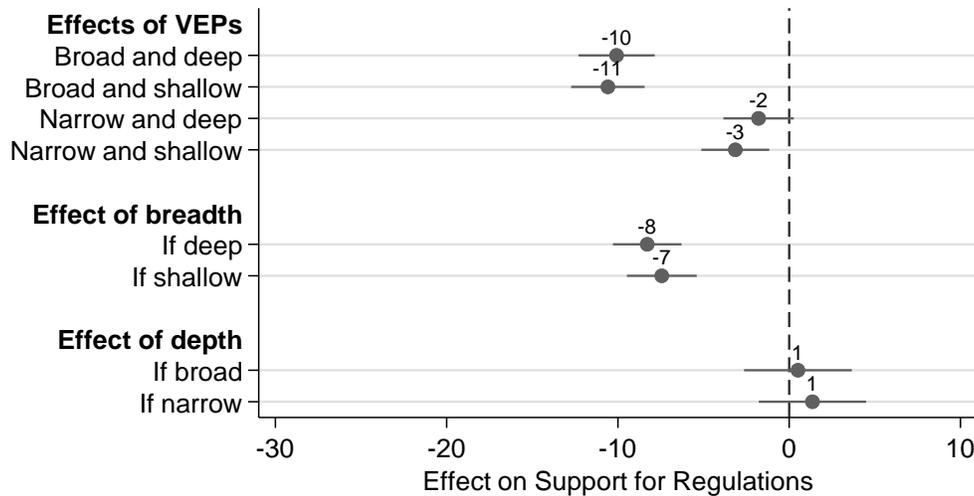
Petitioners, much like Audubon affiliates, were less impressed by VEPs that engaged only half the firms in an industry. Narrow but deep actions moved the regulatory needle by only 1 point, a statistically significant but substantively miniscule shift. Moreover, the effect of narrow and shallow activities was zero.

Finally, our study of petitioners confirmed that the effects of breadth depended on depth, and vice versa. The marginal effect of breadth was 17 points given deep initiatives, compared with 11 points given shallow initiatives. Likewise, respondents perceived a bigger difference between deep and shallow behavior when efforts involved the entire industry (7 points) than when efforts were confined to only half the industry (only 1 point).

In summary, our studies of Audubon affiliates and petition signatories showed that voluntary corporate action demobilized environmental activists, especially when nearly all members of an industry joined the voluntary effort. This finding was not preordained. As emphasized earlier in the paper, activists could have responded with indifference, or they could have demanded even stricter standards in the wake of corporate action.

Would the mass public respond similarly? To find out, we administered the same experiment to a representative sample of adults in the United States. Figure 3 presents our findings, again averaging across all six environmental issues. When we did not mention voluntary corporate action, support for regulations was 50 points out of 100, lower than the baseline rate among the activist samples. Relative to this baseline, regulatory sentiment fell by

10–11 points when voluntary corporate environmentalism was broad, versus only 2–3 points when voluntary corporate environmentalism was narrow. In this fundamental sense, ordinary citizens behaved like activists: reacting strongly when all firms pitched in but barely budging when only half contributed.



**Figure 3: Effects of VEPs on the Mass Public**

*Note:* Effects are defined as changes in support for regulations, relative to a baseline score of 50 when no VEP was mentioned. The graph is based on 10,242 observations, distributed equally across six environmental issues.

In three ways, however, the responses of ordinary citizens differed from those of activists. First, ordinary citizens did not perceive a distinction between deep and shallow VEPs; they reacted just as favorably to minor changes as to major ones. Second, because the mass public did not distinguish between deep and shallow VEPs,<sup>12</sup> our experimental manipulations did not interact, whereas in the activist samples, the effect of breadth depended on depth and vice-versa. Finally, ordinary citizens were less responsive to treatment. Broad and deep voluntary

<sup>12</sup> The differences between deep and shallow VEPs in Figure 3 were small and statistically insignificant.

initiatives moved public opinion by only 10 points, for example, but the same corporate actions shifted activist opinion by 18–20 points. Overall, though, our experiments confirmed that VEPs demobilize both ordinary citizens and environmental activists, while also revealing differences in the responsiveness of the two groups.

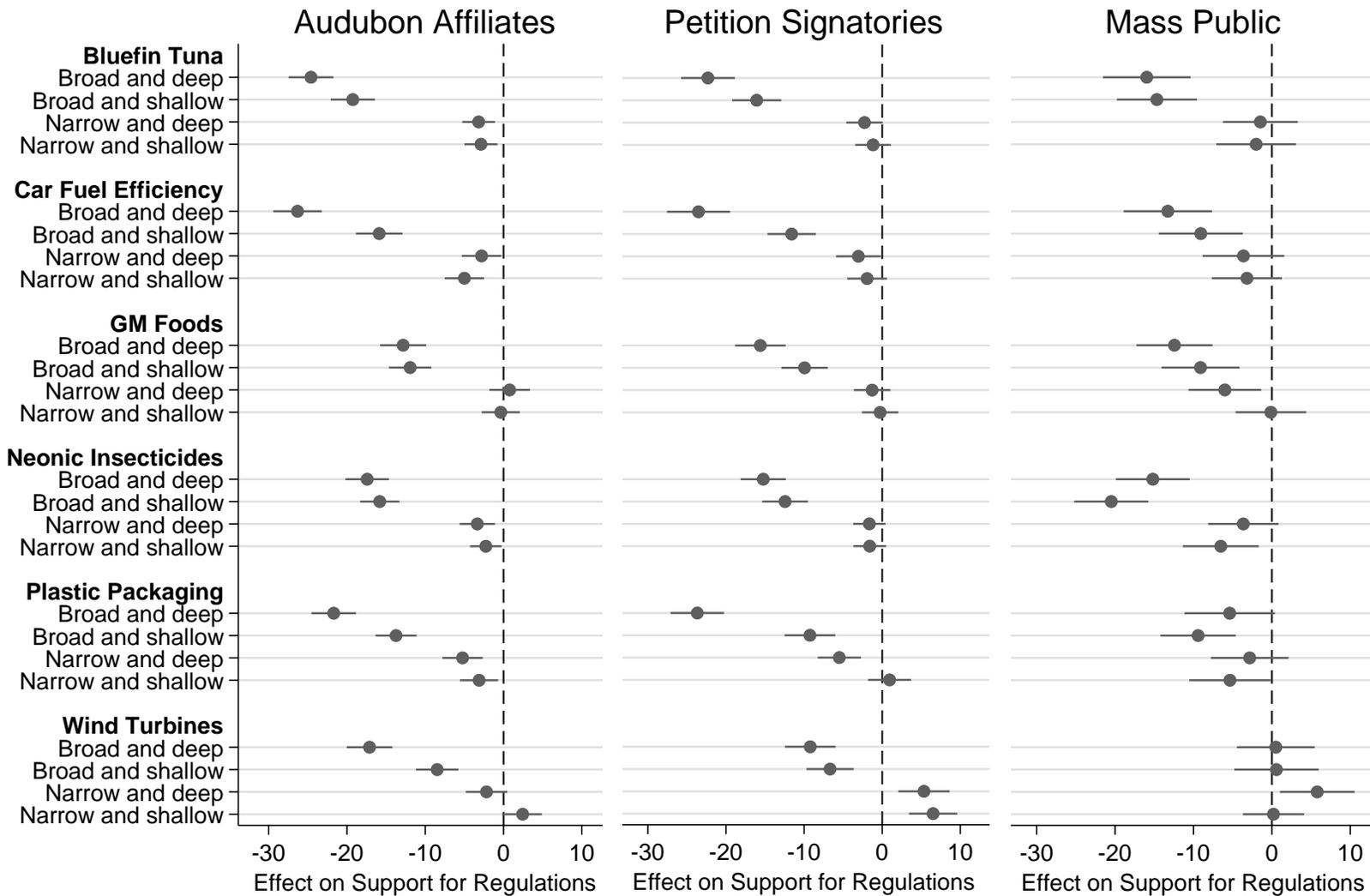
Having pooled data from all six issues to infer the average effects of VEPs on support for regulation, we now test whether the effects differ by issue. The left panel of Figure 4 shows the responses of Audubon affiliates.<sup>13</sup> Regardless of whether the scenario involved bluefin tuna, car fuel efficiency, genetically modified foods, neonicotinoid insecticides, plastic packaging, or wind turbines, broad VEPs reduced support for government regulations. The effects were larger for some issues than for others, but broad and deep voluntary action always moved attitudes by at least 13 points, and on half of the issues the estimated effects exceeded 20 points. Broad but shallow efforts also proved consequential, albeit to a lesser degree: they moved the dependent variable by 8–19 points, depending on the issue.

The effects of narrow VEPs were small by comparison, typically changing the opinions of Audubon affiliates by only 2–3 points on the 100-point scale. Moreover, on one issue, wind turbines, narrow and shallow voluntary action efforts apparently backfired, making Audubon affiliates *more* willing to ban wind turbines in the migratory pathway of birds. As we will see, this finding was not a fluke: it recurred when we surveyed petition signatories and members of the mass public.<sup>14</sup>

---

<sup>13</sup> Among Audubon affiliates, baseline levels of support for regulations were 77 for Bluefin tuna (N=3,600); 70 for car fuel efficiency (N=3,499); 65 for genetically modified foods (N=3,431); 76 for neonicotinoid insecticides (N=3,509); 64 for plastic packaging (N=3,633); and 61 for wind turbines (N=3,542).

<sup>14</sup> Wind turbines may have been an anomalous issue because two environmental goals—wildlife protection and the use of renewable energy—were in conflict.



**Figure 4: Effects of VEPs on Activists and the Mass Public, by Issue**

*Note:* Effects were calculated relative to baselines in which no VEP was mentioned.

The middle panel of Figure 4 summarizes the responses of people who signed our online petition.<sup>15</sup> The patterns were similar to ones we observed with Audubon affiliates. Broad and deep initiatives moved the attitudes of petitioners by 9–24 points; broad but shallow initiatives shifted their preferences by 7–16 points; and narrow voluntary initiatives typically did not matter one way or the other. The one exception was wind turbines, where narrow action inspired activists to demand even tougher government regulations. Overall, though, broad VEPs demobilized environmental activists, whereas narrow VEPs did not.

Finally, the right side of Figure 4 presents the reactions of ordinary citizens.<sup>16</sup> On most issues, broad VEPs proved more potent than narrow VEPs in the eyes of the mass public. The main exception involved wind turbines, where broad VEPs failed to placate citizens and narrow but deep voluntary actions again backfired. Moreover, on nearly all issues, ordinary citizens perceived no significant difference between deep initiatives and shallow ones. In general, then, the main inferences we obtained when pooling the data also held when we analyzed each issue separately.

Having found that VEPs sapped support for regulation across a range of issues, we probed the behavior of political subgroups. To conserve space and maximize statistical power, we focus on Audubon affiliates, the largest of our samples.<sup>17</sup> First, we tested whether the reactions of environmental activists varied by political party affiliation. Second, we tested

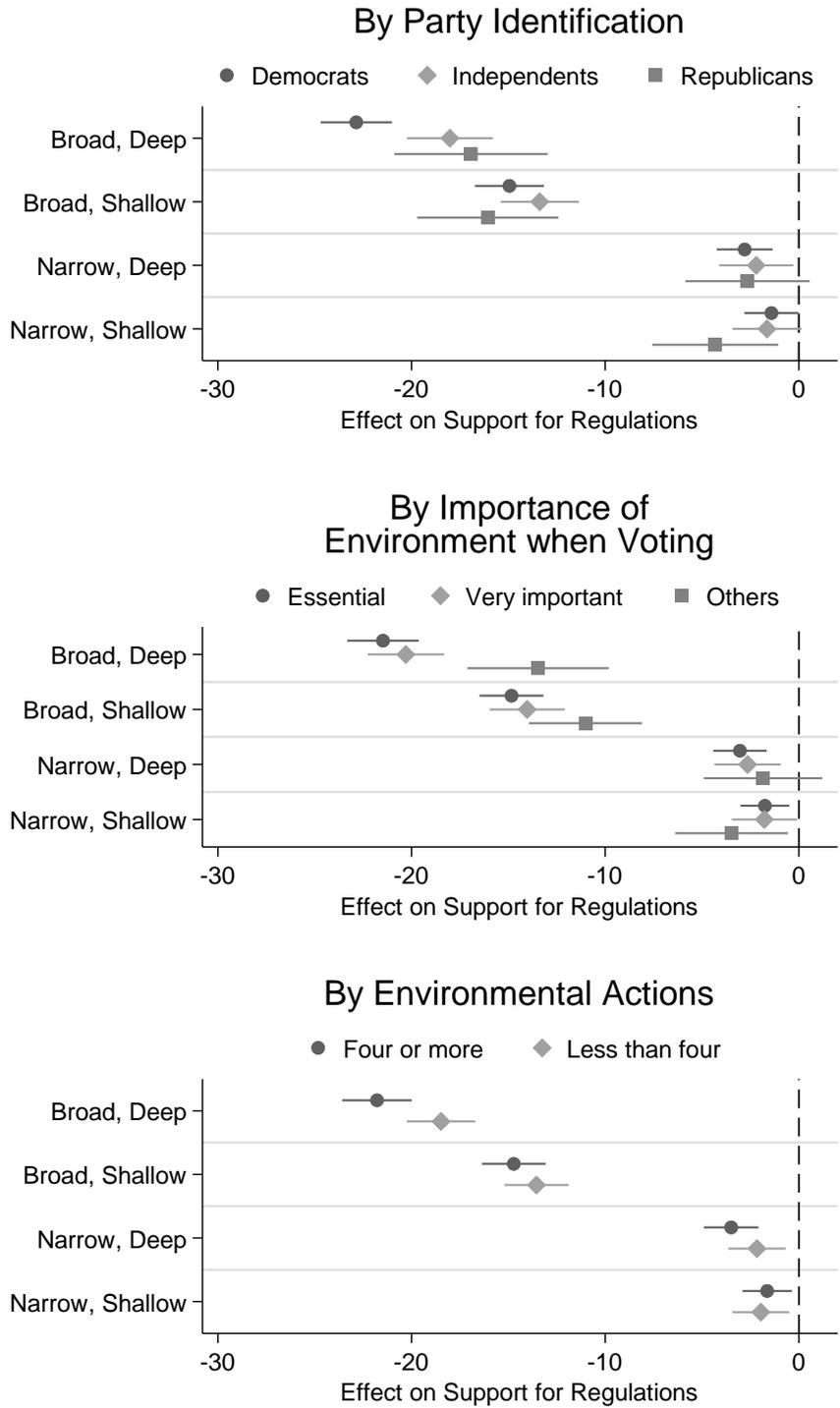
---

<sup>15</sup> Among petition signatories, baseline levels of support for regulations were 86 for Bluefin tuna (N=2,526); 82 for car fuel efficiency (N=2,500); 83 for genetically modified foods (N=2,658); 88 for neonic insecticides (N=2,626); 75 for plastic packaging (N=2,572); and 41 for wind turbines (N=2,558).

<sup>16</sup> Among members of the mass public, baseline levels of support for regulations were 53 for Bluefin tuna (N=1,677); 56 for car fuel efficiency (N=1,656); 60 for genetically modified foods (N=1,698); 54 for neonic insecticides (N=1,737); 44 for plastic packaging (N=1,716); and 34 for wind turbines (N=1,764).

<sup>17</sup> The SI presents the effects by political subgroup for petition signatories and the mass public.

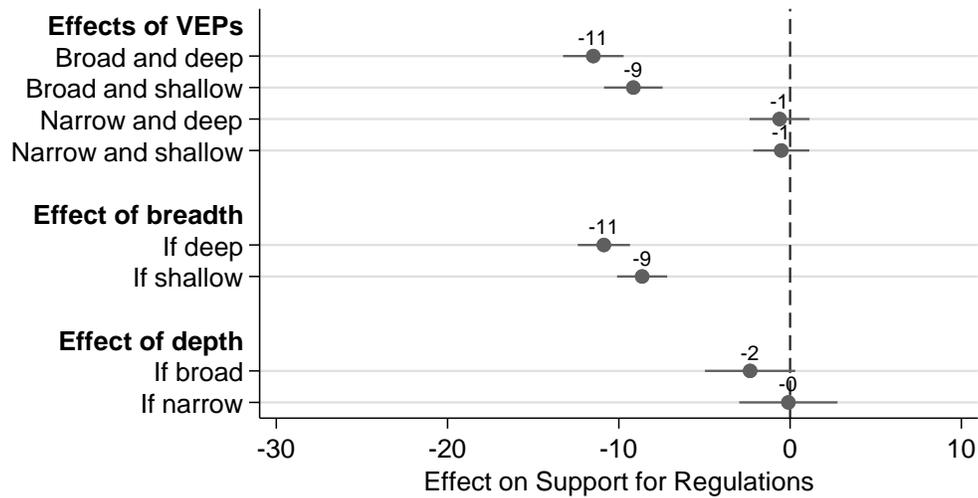
whether sensitivity to VEPs depended on whether respondents said that environmental issues were essential, very important, or not so important for their voting decisions. Finally, to condition on the respondent's level of environmental activism, we distinguished people who had engaged in four or more environmental activities, versus those who had completed fewer than four activities. With few exceptions, the effects of VEPs were similar across these subgroups (Figure 5). Moreover, to the extent that differences existed, VEPs were more effective at demobilizing respondents who prioritized the environment when voting or engaged in a relatively high number of environmental actions.



**Figure 5: Effects of VEPs on Audubon Affiliates, by Political Subgroup**

## 5. Effect of VEPs on Government Officials

Having shown how VEPs affected the policy preferences of environmental activists and ordinary citizens, we now consider the responses of government officials. As Figure 6 shows, support for government regulations fell by 11 points in response to broad and deep VEPs, and by 9 points in response to broad and shallow VEPs. In contrast, narrow VEPs had no substantial effect, regardless of whether companies were taking deep or shallow actions. Figure 6 is similar to Figure 3, implying that government officials responded much like members of the mass public.



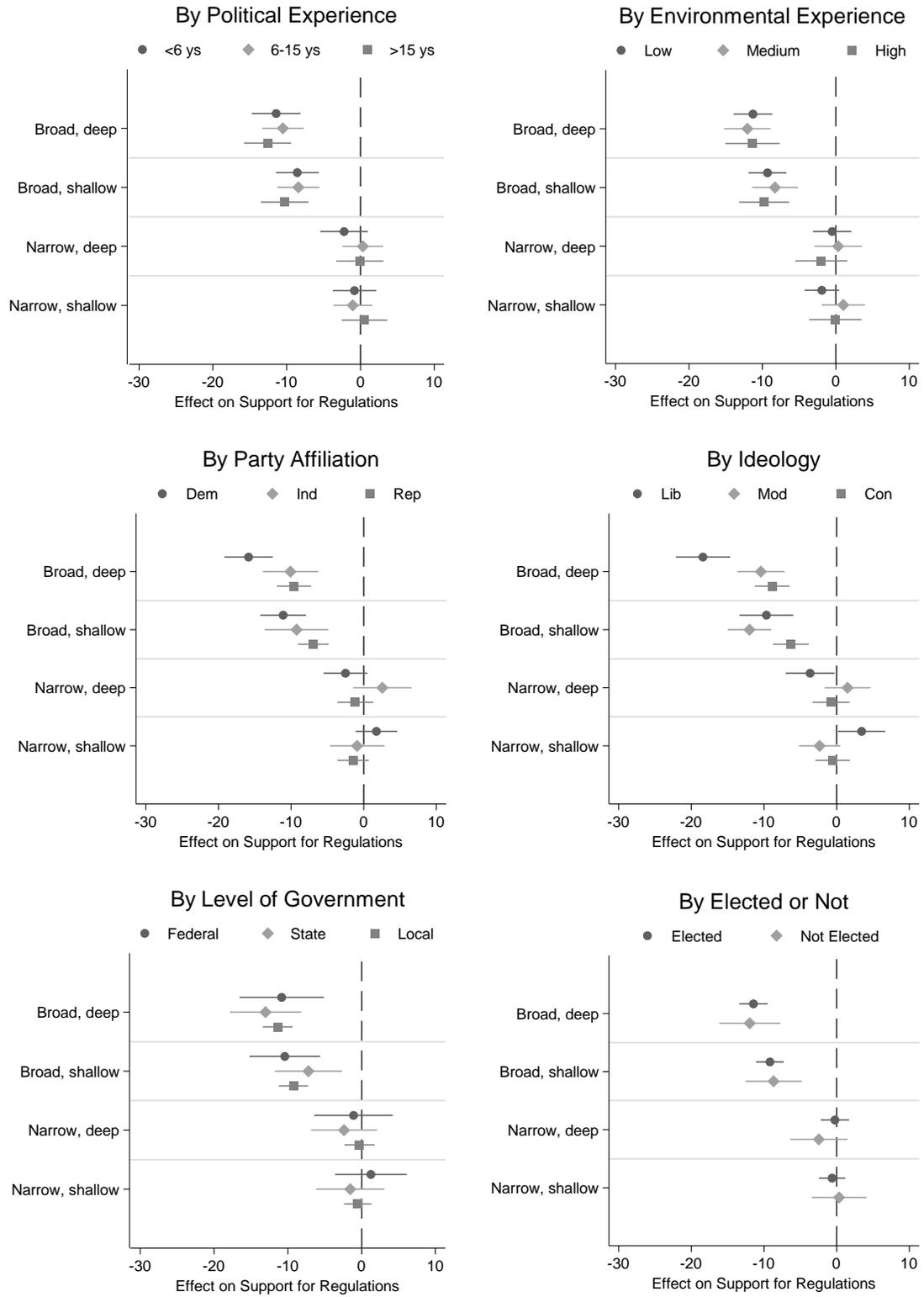
**Figure 6: Effects of VEPs on Government Officials**

*Note:* Effects are defined as changes in support for regulations, relative to a baseline score of 39 when no VEP was mentioned. The graph is based on 7,083 observations, distributed equally across six environmental issues.

For additional insight we disaggregated our sample of government officials by political subgroup (Figure 7). Reinforcing our findings from other samples, broad voluntary corporate initiatives reduced the desire for government regulations, regardless of the respondent's political experience, environmental experience, party affiliation, ideology, level of government, and status as an elected versus appointed public official. The sole exception is that Democratic and liberal officials were especially susceptible to "broad and deep" VEPs. This pattern is consistent with Werner (2015), who found that the sociopolitical reputations of firms had a greater effect on access to Democratic politicians than on access to Republican politicians.<sup>18</sup>

---

<sup>18</sup> We also examined the effects of VEPs by environmental issue. As with our samples of activists and the mass public, we generally found that the treatment effects did not vary by issue area, with the exception of the regulation of wind turbines (see SI).



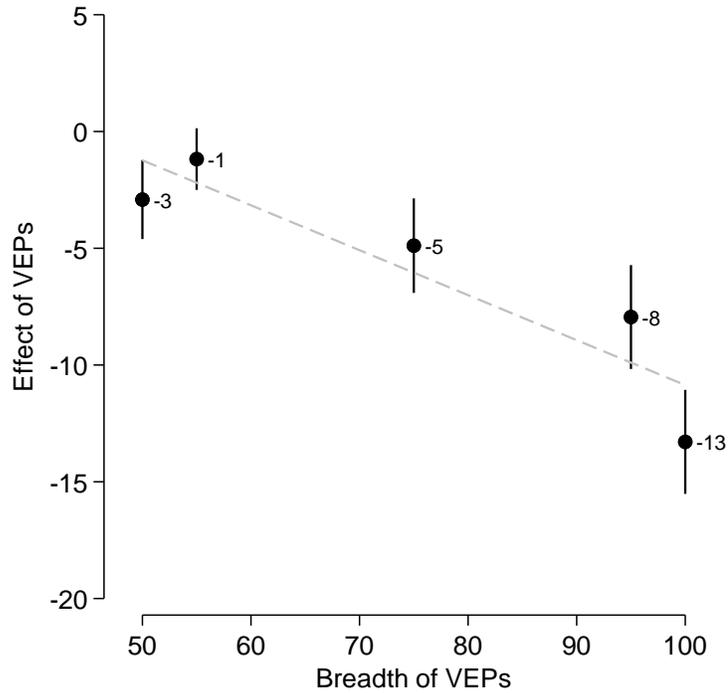
**Figure 7: Effects of VEPs on Government Officials, By Subgroup**

The experiments presented in this paper compared two levels of breadth: 50% and 100% participation by firms in an industry. We found that programs with 50% participation had little effect on regulatory preferences, whereas programs with 100% participation greatly reduced support for regulation. These findings raise a question: how widespread must participation be in order for self-regulation to dampen support for government regulations? To find out, we conducted a follow-up experiment with a fresh sample of 608 government officials.

The follow-up experiment covered four environmental issues: bluefin tuna, car fuel efficiency, neonic insecticides, and plastic packaging. The design was similar to Figure 1, except we only included deep VEPs. On each issue, we measured support for regulations without mentioning voluntary programs, and then randomly assigned each person to consider two levels of breadth out of five possible treatment levels: 50% participation by firms (the “narrow” treatment in our previous studies); 55% participation (a little more than half); 75% participation (the midpoint between the two levels in the original study); 95% participation (nearly all firms participating); and 100% participation (the “broad” treatment in our previous studies).

Figure 8 shows that support for regulations declined as participation broadened, but the relationship exhibited some interesting non-linearities. Full participation clearly had the largest effect on attitudes toward regulation, a 13 percentage point reduction in support relative to the baseline. This effect was statistically significantly lower than any other treatment condition, including the one where 95% of firms voluntarily regulated their behavior. Hence, it appears that government officials view full participation as the best substitute for public regulation. At the other extreme, we found no significant difference in preferences when 50% versus 55% of firms participated. Aside from the full participation condition, the effect of breadth appears to be generally linear; the effect of 75% participation (5 percentage points) is roughly between the

effects of the 55% and 95% conditions (1 and 8 percentage points, respectively).



**Figure 8: Effects of VEPs on Government Officials, By Breadth of Participation**

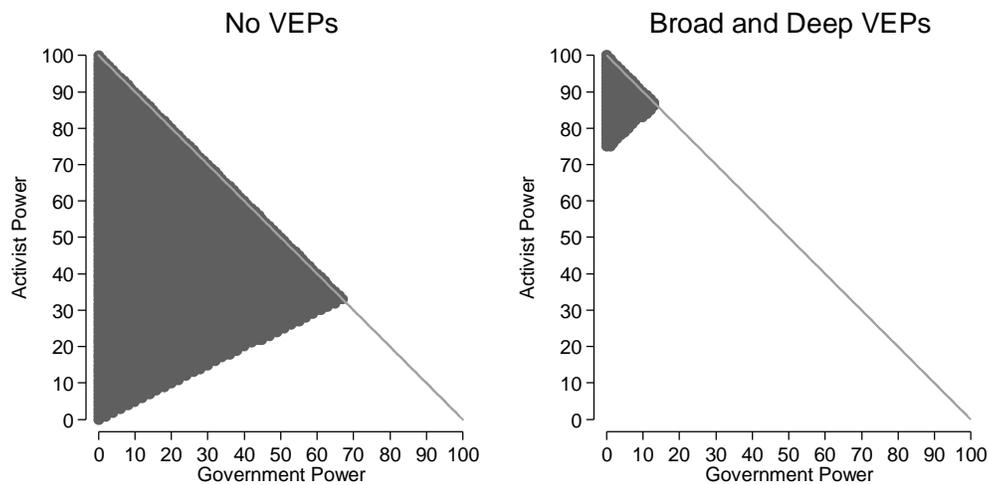
*Note:* Effects are defined as changes in support for regulations, relative to a baseline score of 45 when no VEP was mentioned. The graph is based on 4,863 observations, distributed equally across four environmental issues and five levels of breadth.

## 6. Preference Aggregation

As noted earlier, regulatory policy is a product of a democratic process that aggregates the preferences of government officials, interest groups, and the mass public. Having conducted experiments on all three groups, we can now estimate how VEPs might affect the likelihood of government regulations.

Suppose that policy is a weighted average of the preferences of the three groups. Figure 9 represents this idea graphically. The horizontal axis measures the weight of government officials,

and the vertical axis measures the weight of activists, each on a scale from 0% to 100%. The complementary category is the mass public. Their power is not displayed, but can be computed as 100 minus the power of government officials and political activists. For example, when government and activists have zero weight, the public has 100% weight; when government and activists each have 40% of the clout, the public has the remaining 20%; and when government and activists have each have 50% weight, the public is politically inconsequential.



**Figure 9: Support for Regulation, Conditional on VEPs and the Power of Key Groups**

Based on data from our experiments, we have shaded the regions in which the weighted level of support for regulation was greater than 50 on our scale from 0 to 100. Intuitively, the shaded regions represent configurations of political power for which the pro-regulatory forces outweigh the anti-regulatory forces. One could use other thresholds, but the value of 50 has a simple and natural interpretation of majority support. Our conclusions would not change substantially if we shaded the graphs based on other thresholds in the neighborhood of 50.

Without VEPs, the desire for regulation exceeds 50 for most of the weights one could

imagine. With broad and deep VEPs, in contrast, support exceeds 50 only when environmental activists have at least 75% influence on the making of policy. One way to quantify the effect of VEPs is to compare the size of the shaded areas. Shading covers 67% of the triangle on the left. Thus, if corporations took no voluntary action on the issues in our experiment, support for regulation would exceed 50 for two-thirds of all possible configurations of political power. In contrast, shading covers less than 4% of the triangle on the right. This means that, by taking broad and deep action, corporations can dramatically reduce the set of political scenarios in which the pro-regulation forces would outweigh anti-regulation forces.

## **7. Conclusions**

The extant literature has mainly focused on how firms use lobbying as a strategy to secure desired policies. This paper highlights a distinct source of corporate power in politics: private regulation. This study represents the first attempt to empirically examine how private regulation influences the policy attitudes of key stakeholders in the policymaking process: activists, ordinary citizens, and public officials.

Our experiments point to a clear conclusion: companies can reduce support for environmental regulations by voluntarily doing more than the status quo, but less than what people might demand in the absence of self-regulation. The findings in this paper are remarkably robust. They recur across three distinct groups and six environmental issues, with little regard for the individual's political affiliation, experience, or activism. Given concerns in the social sciences about replicability (Open Science Collaboration 2015), the consistency across several independent samples and datasets is reassuring.

Our experiments also clarified which types of VEPs were most consequential. Both

activists and ordinary citizens were more favorably disposed toward broad VEPs than toward deep VEPs. Activists also perceived a difference between deep and shallow initiatives, but ordinary citizens did not. Moreover, even among activists, breadth was far more important than depth. These findings imply that industry-wide initiatives, including relatively shallow ones, may be highly efficient for corporations. Such initiatives could not only yield cooperative equilibria in which companies agree to compete on a level playing field, but could also protect firms from pressure by activists and the mass public.

Our findings have important implications for corporate influence, government regulations, and environmental politics. The power of business goes beyond lobbying, and is therefore larger than what much of the political science literature has previously appreciated. Moreover, unlike traditional modes of influence such as lobbying and campaign contributions, corporate self-regulation is less susceptible to reforms that might attempt to restrict such activities. Finally, self-regulation is a strategic option available primarily, if not exclusively, to corporations, heightening their power relative to competing interest groups.

There are several avenues to build upon the research here. We estimated the effects of deep versus shallow VEPs. However, even our shallow treatments represented at least some self-regulation on the part of firms. Future work should investigate the political consequences of “greenwashing,” in which firms portray themselves as environmentally progressive, when in reality they have not taken any meaningful steps to improve their environmental behavior. Similarly, firms often engage in charity work or activism outside their core domain (e.g., an oil company raising awareness for breast cancer). Might these types of corporate activities have spillovers on the environmental issues discussed in this paper?

Future research could also further explore the power of breadth. We found that even

modest action could suppress support for regulation, provided that nearly all firms participated. Subsequent studies could measure the breadth of voluntary initiatives and investigate why broad initiatives occur in some industries but not in others. For instance, firms in some industries might face a collective action problem in committing to shallow, industry-wide VEPs. Firms may have an incentive to defect from the cartel and engage in higher levels of self-regulation in order to present a positive image to consumers and potential employees. Whereas industry-wide VEPs are a shared resource in deflecting onerous regulations, firms can capture private benefits in the product and labor markets by branding themselves as “green” via stronger VEPs. Hence, perhaps there is heterogeneity by industry with broad but shallow VEPs more prevalent in industries that do not face ethically minded consumers and employees.

Future work could also consider a wider range of dependent variables. In this paper, we studied how VEPs affect policy preferences. It is reasonable to assume that, if voluntary corporate action decreases support for government regulations, it should also decrease the willingness of people to take costly political action to support that regulation (e.g., organizing, protesting, writing elected representatives). Subsequent studies could directly test the effects of VEPs on mobilization and political engagement.

Research could also investigate the possibility of displacement. We found that, when companies take voluntary action on an environmental issue, respondents became less supportive of government regulation on that same issue. We did not examine whether those same respondents might therefore shift their attention elsewhere, by calling for stiffer regulations on other issues or another set of firms and industries. In future work, it would be instructive to learn whether VEPs displace mobilization to other issues, without dampening the overall level of mobilization.

Although this paper has focused on the environment, both the theoretical framework and empirical results may be applicable to other policy domains in which firms face the threat of government regulation. Private regulation could affect attitudes toward gun control, food safety, pharmaceutical and banking regulations, and labor market policies such as the minimum wage, gender equality, and occupational health and safety. The logic should also extend to other countries. By extending our research designs to other policy areas and geographies, we may gain a fuller understanding of the nature and limitations of corporate power.

## References

- Arceneaux, Kevin, and Robin Kolodny. 2009. "Educating the Least Informed: Group Endorsements in a Grassroots Campaign." *American Journal of Political Science* 53(4): 755–70.
- Baron, David P., and Daniel Diermeier. 2007. "Strategic Activism and Nonmarket Strategy." *Journal of Economics & Management Strategy* 16(3): 599–634.
- Bartels, Brandon L., and Diana C. Mutz. 2009. "Explaining Processes of Institutional Opinion Leadership." *Journal of Politics* 71(1): 249–61.
- Baumgartner, Frank R., and Beth L. Leech. 1998. *Basic Interests: The Importance of Groups in Politics and in Political Science*. Princeton, NJ: Princeton University Press.
- Baron, David P. 2014. "Self-Regulation in Private and Public Politics." *Quarterly Journal of Political Science* 9(2): 231–67.
- Baron, David P., Maretno Agus Harjoto, and Hoje Jo. 2011. "The Economics and Politics of Corporate Social Performance." *Business and Politics* 13(2): 1–46.
- Barrett, Scott. 1991. "Environmental Regulation for Competitive Advantage." *Business Strategy Review* (Spring): 1–15.
- Bendor, Jonathan, Daniel Diermeier, David A. Siegel, and Michael M. Ting. 2011. *A Behavioral Theory of Elections*. Princeton, NJ: Princeton University Press.
- Bernauer, Thomas, and Ladina Caduff. 2004. "In Whose Interest? Pressure Group Politics, Economic Competition and Environmental Regulation." *Journal of Public Policy* 24(1): 99–126.
- Bullock, John G. 2011. "Elite Influence on Public Opinion in an Informed Electorate." *American Political Science Review* 105(3): 496–515.

- Büthe, Tim. 2010. "Private Regulation in the Global Economy: A (P)Review." *Business and Politics* 12(3): 1–38.
- Carmines, Edward G., and James H. Kuklinski. 1990. "Incentives, Opportunities, and the Logic of Public Opinion in American Political Representation." In *Information and Democratic Processes*. Eds. John A. Ferejohn and James H. Kuklinski. Urbana, IL: University of Illinois Press.
- Decker, Christopher S. 2005. "Do Regulators Respond to Voluntary Pollution Control Efforts? A Count Data Analysis." *Contemporary Economic Policy* 23(2): 180–94.
- Denicolò, Vincenzo. 2008. "A Signaling Model of Environmental Overcompliance." *Journal of Economic Behavior and Organization*. 68: 293–303.
- Druckman, James N., and Arthur Lupia. 2000. "Preference formation." *Annual Review of Political Science* 3(1): 1–24.
- Drutman, Lee. 2015. *The Business of America is Lobbying: How Corporations Became Politicized and Politics Became More Corporate*. New York: Oxford University Press.
- Fooks, Gary et al. 2013. "The Limits of Corporate Social Responsibility: Techniques of Neutralization, Stakeholder Management and Political CSR." *Journal of Business Ethics* 112: 283–99.
- Green, Jessica F. 2014. *Rethinking Private Authority: Agents and Entrepreneurs in Global Environmental Governance*. Princeton, NJ: Princeton University Press.
- Hall, Peter A. 1986. *Governing the Economy: The Politics of State Intervention in Britain and France*. New York: Oxford University Press.
- Innes, Robert, and Abdoul G. Sam. 2008. "Voluntary Pollution Reductions and the Enforcement of Environmental Law: An Empirical Study of the 33/50 Program." *Journal of Law and*

- Economics* 51(2): 271–96.
- Iyengar, Shanto, and Donald R. Kinder. 1987. *News that Matters*. Chicago: University of Chicago Press.
- Kinderman, Daniel. 2012. “‘Free Us up So We Can Be Responsible!’ The Co-Evolution of Corporate Social Responsibility and Neo-Liberalism in the UK, 1977–2010.” *Socio-Economic Review* 10: 29–57.
- Kinderman, Daniel. 2016. “Time for a Reality Check: Is Business Willing to Support a Smart Mix of Complementary Regulation in Private Governance?” *Policy and Society* 35: 29–42.
- King, Brayden G., and Mary-Hunter McDonnell. 2015. “Good Firms, Good Targets: The Relationship Between Corporate Social Responsibility, Reputation, and Activist Targeting.” In *Corporate Social Responsibility in a Globalizing World: Toward Effective Global CSR Frameworks*. Eds. K. Tsutsui and A Lim. New York: Cambridge University Press. 430–54.
- Kollman, Ken. 1998. *Outside Lobbying: Public Opinion and Interest Group Strategies*. Princeton, NJ: Princeton University Press.
- Lindblom, Charles E. 1977. *Politics and Markets*. New York: Basic Books.
- Lupia, Arthur. 1994. “Shortcuts Versus Encyclopedias: Information and Voting Behavior in California Insurance Reform Elections.” *American Political Science Review* 88(1): 63–76.
- Maxwell, John W., Thomas P. Lyon, and Steven C. Hackett. 2000. “Self-Regulation and Social Welfare: The Political Economy of Corporate Environmentalism.” *Journal of Law and Economics* 43(2): 583–618.

- Lyon, Thomas P., and John W. Maxwell. 2004. *Corporate Environmentalism and Public Policy*. New York: Cambridge University Press.
- Malhotra, Neil, Jon A. Krosnick, and Randall K. Thomas. 2009. "Optimal Design of Branching Questions to Measure Bipolar Constructs." *Public Opinion Quarterly* 73(2): 304–24.
- Open Science Collaboration. 2015. "Estimating the Reproducibility of Psychological Science." *Science* 349(6251): aac4716.
- Pew Research Center. 2015. "Party Identification Trends, 1992-2014." <http://www.people-press.org/2015/04/07/party-identification-trends-1992-2014> (accessed November 28, 2017).
- Potoski, Matthew, and Aseem Prakash. 2005. "Green Clubs and Voluntary Governance: ISO 14001 and Firms' Regulatory Compliance." *American Journal of Political Science* 49(2): 235–48.
- Potoski, Matthew, and Aseem Prakash. 2013. "Green Clubs: Collective Action and Voluntary Environmental Programs." *Annual Review of Political Science* 16: 399–419.
- Prakash, Aseem. 2000. *Greening the Firm: The Politics of Corporate Environmentalism*. New York: Cambridge University Press.
- Prakash, Aseem, and Matthew Potoski. 2006. *The Voluntary Environmentalists: Green Clubs, ISO 14001, and Voluntary Environmental Regulations*. New York: Cambridge University Press.
- Prakash, Aseem, and Matthew Potoski. 2012. "Voluntary Environmental Programs: A Comparative Perspective." *Journal of Policy Analysis and Management* 31(1): 123–38.
- Sam, Abdoul G. 2010. "Impact of Government-Sponsored Pollution Prevention Practices on Environmental Compliance and Enforcement: Evidence from a Sample of US

- Manufacturing Facilities.” *Journal of Regulatory Economics* 37(3): 266–86.
- Schattschneider, E.E. 1960. *The Semisovereign People: A Realist's View of Democracy in America*. New York: Holt, Rinehart and Winston.
- Schlozman, Kay Lehman, and John T. Tierney. 1986. *Organized Interests and American Democracy*. New York: Harper Collins.
- Smith, Mark A. 2000. *American Business and Political Power: Public Opinion, Elections, and Democracy*. Chicago: University of Chicago Press.
- Urpelainen, Johannes. 2011. “Frontrunners and Laggards: The Strategy of Environmental Regulation under Uncertainty.” *Environmental Resource Economics* 50: 325–46.
- Vogel, David. 2005. *The Market for Virtue: The Potential and Limits of Corporate Social Responsibility*. Washington, D.C.: Brookings Institution Press.
- Vogel, David. 2008. “Private Global Business Regulation.” *Annual Review of Political Science* 11(1): 261–82.
- Werner, Timothy. 2012. *Public Forces and Private Politics in American Big Business*. New York: Cambridge University Press.
- Werner, Timothy. 2015. “Gaining Access by Doing Good: The Effect of Sociopolitical Reputation of Firm Participation in Public Policy Making.” *Management Science* 61(8): 1989–2011.
- Wilson, James Q. 1974. *Political Organizations*. Princeton, NJ: Princeton University Press.